

Appln. No. 10/065,462  
Docket No. 124611/GEM-0052

### REMARKS / ARGUMENTS

Applicant notes that the Examiner indicates Claims 1-22 pending, and Claims 5, 6, 14 and 15 being withdrawn. Paper 20061102, page 1. In an effort to clarify the record, Applicant respectfully refers to Amendment paper dated August 14, 2006, where Applicant canceled Claims 5, 6, 14, 15 and 23-26. Thus, Applicant submits that Claims 1-4, 7-13 and 16-22 are pending in the application, and that no claims stand withdrawn. The Status of Claims noted below summarize Applicant's understanding of the present status of the claims.

#### Status of Claims

Claims 1-4, 7-13 and 16-22 are pending in the application and stand rejected. Applicant has amended Claims 1, 10, 19 and 20, leaving Claims 1-4, 7-13 and 16-22 for consideration upon entry of the present Amendment.

Applicant respectfully submits that the rejections under 35 U.S.C. §112, second paragraph, 35 U.S.C. §112, first paragraph, 35 U.S.C. §102(b), and 35 U.S.C. §103(a), have been traversed, that no new matter has been entered, and that the application is in condition for allowance.

#### Rejections Under 35 U.S.C. §112, Second Paragraph

The Examiner remarks that Claims 1- 26 (understood to mean Claims 1-4, 7-13 and 16-22) stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicant regards as the invention.

The Examiner comments that "the phrase 'substantially normally' in claims 1, 10, 19 and 20, is a relative term which renders the claim indefinite", that the term "substantially" is not defined by the claim, that the specification does not provide a standard for ascertaining the requisite degree, and that one of ordinary skill in the art would not be apprised of the scope of the invention.

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The Examiner references *Ex parte Oetiker*, 23 USPQ2d 641 (understood to be 1641) (Bd. PA&I 1992). Paper 20061102, page 2.

Applicant traverses this rejection for the following reasons.

Applicant submits that where the claims define patentable subject matter with a reasonable degree of particularity and distinctness, the claims should be allowed. Some latitude in the manner of expression and the aptness of terms should be permitted even though the claim language is not as precise as may be desired. Claims should not be rejected if the expression selected by Applicant satisfies the statutory requirements. In viewing a claim for compliance with 35 U.S.C. §112, second paragraph, the claim as a whole must be considered to determine whether the claim apprises one of ordinary skill in the art of its scope and, therefore, serves the required notice function. MPEP 2173.02. (Emphasis in the original).

Also, Applicant submits that the term "substantially" is often used in conjunction with another term to describe a particular characteristic of the claimed invention. It has been held to be a broad term. *In re Nehrenberg*, 280 F.2d 161, 126 USPQ 383 (CCPA 1960). However, the court held that the limitation "to *substantially increase* the efficiency of the compound as a copper extractant" was *definite* in view of the general guidelines contained in the specification. *In re Mattison*, 509 F.2d 563, 184 USPQ 484 (CCPA 1975). The court also held that the limitation "which produces *substantially equal* E and H plane illumination patterns" was *definite because one of ordinary skill in the art would know what was meant by "substantially equal."* *Andrew Corp. v. Gabriel Electronics*, 847 F.2d 819, 6 USPQ2d 2010 (Fed. Cir. 1988). See also MPEP 2173.05(b).

In view of the present application being in the field of medical technology, Applicant submits that one skilled in the art is a person having knowledge to differentiate between "normal" and "abnormal" QRS complexes, and at Paragraph [0051], Applicant refers to "normal" QRS complexes as being depicted in the first two QRS complexes in Figures 5, 6, 8 and 9. While not specifically delineating the difference between a "normal" QRS complex and a "substantially normal" QRS complex, Applicant submits that by reading the claim as a whole in view of the description provided in the

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specification as originally filed, one of ordinary skill in the art would be apprised of the scope of the claims and would understand the meaning of *substantially normally* shaped consecutive QRS complexes, with reference to *Andrew Corp. v. Gabriel Electronics*, 847 F.2d 819, 6 USPQ2d 2010 (Fed. Cir. 1988), and MPEP 2173.05(b). Applicant also submits that a "normal" QRS complex for one person may be slightly different than a "normal" QRS complex for another person, but in the field of medical technology, the two QRS complexes would be considered by one skilled in the art to be "substantially normally shaped".

In addition to the foregoing, Applicant submits that the Examiner has taken the phrase "substantially normally" out of context, and has disregarded that "substantially normally" relates to "substantially normally shaped consecutive QRS complexes". Read in light of the claim as a whole, Applicant submits that one skilled in the art would understand what was meant.

Notwithstanding the foregoing, and in respectful disagreement with the Examiner, and with no intent to change the scope of the claims, Applicant has, in an effort to advance this case to allowance, amended Claims 1, 10, 19 and 20 to remove the term "substantially", while at the same time respectfully submitting that the remaining term "normally shaped" essentially means "substantially normally shaped", especially in view of normalcy between two different patients.

In view of the foregoing, Applicant respectfully submits that the claimed subject matter is described in such a manner that reasonably conveys to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Accordingly, Applicant respectfully requests the Examiner to reconsider and withdraw this rejection, which Applicant considers to be traversed.

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**Rejections Under 35 U.S.C. §112, First Paragraph**

Claims 1, 10, 19 and 20 stand rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

Applicant traverses this rejection for the following reasons.

Applicant respectfully submits that where the specification provides general guidelines as to the scope of the invention such that one of ordinary skill in the art would know what was meant, the subject matter of the invention would have been described and supported in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

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Applicant further submits that where the claims define patentable subject matter with a reasonable degree of particularity and distinctness consistent with the specification, the claims should be allowed. Some latitude in the manner of expression and the aptness of terms should be permitted even though the claim language is not as precise as may be desired.

It is well established that an Applicant may be his or her own lexicographer as long as the meaning assigned to the term is *not repugnant* to the term's well known usage. In re Hill, 161 F.2d 367, 73 USPQ 482 (CCPA 1947) (emphasis added). Any special meaning assigned to a term "must be *sufficiently clear* in the specification that any departure from common usage would be *so understood by a person of experience in the field of the invention*." Multiform Desiccants Inc. v. Medzam Ltd., 133 F.3d 1473, 1477, 45 USPQ2d 1429, 1432 (Fed. Cir. 1998) (emphasis added). MPEP 2111.01.

Applicant believes the present specification and claims satisfy that burden.

At Paragraph [0038-0039] of the application as originally filed, Applicant describes two methods for calculating the duration of a representative cardiac cycle. From this description, Applicant submits that it stands to reason that the applied mean method would be in response to averaging using the mean method, which is essentially what the claim language "wherein in response to said averaging being averaging by said mean method, said mean method comprising..." means.

As such, Applicant respectfully disagrees that the subject claim language lacks written description in the specification.

However, in an effort to advance this case to allowance, Applicant has amended the language of Claims 1, 10, 19 and 20 to rephrase the limitation in a more acceptable manner, and submits that such rephrasing does not change the scope of the claims.

In view of the foregoing, Applicant respectfully submits that the specification provides general guidelines as to the scope of the invention such that one of ordinary skill in the art would know what was meant, and that the subject matter of the invention has been described and is supported in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of

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the claimed invention and provided an enabling disclosure and clear written description thereof, and therefore respectfully requests reconsideration and withdrawal of all rejections under 35 U.S.C. §112, first paragraph, which Applicant considers to be traversed.

**Rejections Under 35 U.S.C. §102(b)**

Claims 1-4, 9-13 and 18 stand rejected under 35 U.S.C. §102(b) as being anticipated by Kaufman et al. (U.S. Publication No. 2003/0016852, hereinafter Kaufman).

Applicant traverses this rejection for the following reasons.

Applicant respectfully submits that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, *in a single prior art reference.*" *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). Moreover, "[t]he identical invention must be shown in as complete detail as is contained in the \*\*\* claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Furthermore, the single source must disclose all of the claimed elements "arranged as in the claim." *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984). Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 780, 227 U.S.P.Q. 773, 777 (Fed. Cir. 1985).

Applicant has amended Claims 1 and 10 as set forth above.

No new matter has been added by these amendments as antecedent support may be found in the specification as originally filed, such as at Claims 5 and 6, for example.

Dependent claims inherit all of the limitations of the respective parent claim.

In alleging anticipation, the Examiner alleges that Kaufman discloses each and every element of the claimed invention, but the Examiner is silent as to where Kaufman discloses the limitation of:

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"...wherein said calculating duration of the representative cardiac cycle by averaging includes averaging by one of: a mean method comprising discarding at least one of a longest and a shortest interval of said N-1 intervals, and computing a mean of a remaining N-1 intervals indicative of the representative cardiac cycle so as to associate with a computed tomography imaging system scan; and, a median method."

At page 6 of Paper No. 20061102, the Examiner acknowledges that Kaufman is deficient in teaching "the steps of selecting a middle interval", which the Examiner also refers to as "averaging using a median method". Paper No. 20061102, page 6.

Applicant agrees that Kaufman is deficient in disclosing or teaching an averaging of cardiac cycle duration by using a median method.

At Paragraph [0054] of Kaufman, Applicant finds Kaufman to disclose "the average length of the R-R cycle", but to be deficient in disclosing a discarding of at least one of a longest and a shortest interval of the N-1 intervals.

Thus, Applicant also submits that Kaufman is deficient in disclosing an averaging of cardiac cycle duration by using a mean method comprising discarding at least one of a longest and a shortest interval of said N-1 intervals, and computing a mean of a remaining N-1 intervals indicative of the representative cardiac cycle so as to associate with a computed tomography imaging system scan.

Accordingly, Applicant submits that Kaufman does not disclose all of the claimed elements arranged as in the claim, and absent anticipatory disclosure in Kaufman of each and every element of the claimed invention arranged as in the claim, Kaufman cannot be anticipatory.

In view of the foregoing remarks, Applicant submits that Kaufman does not disclose each and every element of the claimed invention arranged as claimed and therefore cannot be anticipatory. Accordingly, Applicant respectfully submits that the Examiner's rejection under 35 U.S.C. §102(b) has been traversed, and requests that the Examiner reconsider and withdraw of this rejection.

The arguments and amendments presented herein are made for the purposes of better defining the invention, rather than to overcome the rejections for patentability

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under 35 U.S.C. 102(b). The claims have not been amended to overcome the prior art and therefore, no presumption should attach that either the claims have been narrowed over those earlier presented, or that subject matter or equivalents thereof to which the Applicant is entitled has been surrendered. Allowance of the claims is respectfully requested in view of the above remarks. Moreover, no amendments as presented alter the scope of the claimed invention and therefore cannot necessitate a new grounds rejection.

#### **Rejections Under 35 U.S.C. §103(a)**

Claims 8, 13, 17 and 19-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kaufman in view of Boyd et al. (U.S. Patent No. 7,020,511, hereinafter Boyd) and further in view of Lutz (U.S. Patent No. 5,832,051).

Applicant traverses these rejections for the following reasons.

Applicant respectfully submits that the obviousness rejection based on the References is improper as the References fail to teach or suggest each and every element of the instant invention in such a manner as to perform as the claimed invention performs. For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). The Examiner must meet the burden of establishing that all elements of the invention are taught or suggested in the prior art. MPEP §2143.03.

Additionally, Applicant respectfully refers to Amendment paper dated August 14, 2006, where on page 2 Applicant provided a *Statement Concerning Common Ownership* of the instant above-identified Application and U.S. Patent to Boyd et al. (U.S. Patent No. 7,020,511). However, in the instant Office Action Paper No. 20061102, it appears that the Examiner has overlooked the aforementioned Statement, and has continued to apply Boyd, which Applicant submits is 102(e) art, for purposes of rejection under 35 U.S.C. 103(a), which Applicant respectfully submits, absent further explanation from the Examiner, is an error in law.

Accordingly, Applicant submits that Boyd is 102(e) art, and that by applying 35 U.S.C. 103(c), Boyd is disqualified as a prior art reference against the instant Application,



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and with this disqualification, further submits that Lutz is deficient in curing the deficiencies of Kaufman.

In addition to the foregoing, Applicant finds no motivation or teaching in the remaining applicable prior art Reference to modify the primary Reference to arrive at the claimed arrangement of elements without disturbing the intended purpose of the art being modified (use of retrospective gating using the average length of the R-R cycle for the different intervals, [Paragraph 0054]).

In view of the foregoing, Applicant submits that the References fail to teach or suggest each and every element of the claimed invention and are therefore wholly inadequate in their teaching of the claimed invention as a whole, fail to motivate one skilled in the art to do what the patent Applicant has done, fail to recognize a problem recognized and solved only by the present invention, fail to offer any reasonable expectation of success in combining the References to perform as the claimed invention performs, fail to teach a modification to prior art that does not render the prior art being modified unsatisfactory for its intended purpose, and discloses a substantially different invention from the claimed invention, and therefore cannot properly be used to establish a prima facie case of obviousness. Accordingly, Applicant respectfully requests reconsideration and withdrawal of all rejections under 35 U.S.C. §103(a), which Applicant considers to be traversed.

Applicant has amended the claims for presentation in a better form that more clearly reflects Applicant's invention. The claim amendments should only require a cursory review by the Examiner as they only include language presented in earlier examined claims.

In light of the foregoing remarks and amendments, Applicant respectfully submits that the proposed amendments and arguments comply with 37 C.F.R. §1.116 and should therefore be entered, and with their entry that the Examiner's rejections under 35 U.S.C. §112, second paragraph, 35 U.S.C. §112, first paragraph, 35 U.S.C. §102(b), and 35

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U.S.C. §103(a), have been traversed, and that the application is now in condition for allowance. Such action is therefore respectfully requested.

If a communication with Applicant's Attorneys would assist in advancing this case to allowance, the Examiner is cordially invited to contact the undersigned so that any such issues may be promptly resolved.

The Commissioner is hereby authorized to charge any additional fees that may be required for this amendment, or credit any overpayment, to Deposit Account No. 07-0845.

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In the event that an extension of time is required, or may be required in addition to that requested in a petition for extension of time, the Commissioner is requested to grant a petition for that extension of time that is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to the above-identified Deposit Account.

Respectfully submitted,

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